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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/071,370A

DATE: 11/13/2002 P.6
TIME: 14:08:19

Input Set : A:\18199cb.txt

Output Set: N:\CRF4\11132002\J071370A.raw

```

4 <110> APPLICANT: Bayne, Marvin L.
5      Conn, Gregory L.
6      Thomas, Jr., Kenneth A.
8 <120> TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
9      II
11 <130> FILE REFERENCE: 18199CB
13 <140> CURRENT APPLICATION NUMBER: US 10/071,370A
14 <141> CURRENT FILING DATE: 2002-02-08
16 <150> PRIOR APPLICATION NUMBER: 09/326,879
17 <151> PRIOR FILING DATE: 1999-06-07
19 <150> PRIOR APPLICATION NUMBER: 09/038,199
20 <151> PRIOR FILING DATE: 1998-03-10
22 <150> PRIOR APPLICATION NUMBER: 08/299,185
23 <151> PRIOR FILING DATE: 1994-08-31
25 <150> PRIOR APPLICATION NUMBER: 08/000,834
26 <151> PRIOR FILING DATE: 1993-01-05
28 <150> PRIOR APPLICATION NUMBER: 07/586,638
29 <151> PRIOR FILING DATE: 1990-09-21
31 <160> NUMBER OF SEQ ID NOS: 29
33 <170> SOFTWARE: FastSEQ for Windows Version 4.0
35 <210> SEQ ID NO: 1
36 <211> LENGTH: 577
37 <212> TYPE: DNA
38 <213> ORGANISM: rat
40 <220> FEATURE:
41 <221> NAME/KEY: CDS
42 <222> LOCATION: (5)...(577)
44 <400> SEQUENCE: 1
45 aacc atg aac ttt ctg ctc tct tgg gtg cac tgg acc ctg gct tta ctg      49
46      Met Asn Phe Leu Leu Ser Trp Val His Trp Thr Leu Ala Leu Leu
47      1              5              10              15
49 ctg tac ctc cac cat gcc aag tgg tcc cag gct gca ccc acg aca gaa      97
50 Leu Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Thr Thr Glu
51      20              25              30
53 ggg gag cag aaa gcc cat gaa gtg gtg aag ttc atg gac gtc tac cag      145
54 Gly Glu Gln Lys Ala His Glu Val Val Lys Phe Met Asp Val Tyr Gln
55      35              40              45
57 cgc agc tat tgc cgt ccg att gag acc ctg gtg gac atc ttc cag gag      193
58 Arg Ser Tyr Cys Arg Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
59      50              55              60
61 tac ccc gat gag ata gag tat atc ttc aag ccg tcc tgt gtg ccc cta      241
62 Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
63      65              70              75

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```

65 atg cgg tgt gcg ggc tgc tgc aat gat gaa gcc ctg gag tgc gtg ccc 289
66 Met Arg Cys Ala Gly Cys Cys Asn Asp Glu Ala Leu Glu Cys Val Pro
67 80 85 90 95
69 acg tcg gag agc aac gtc act atg cag atc atg cgg atc aaa cct cac 337
70 Thr Ser Glu Ser Asn Val Thr Met Gln Ile Met Arg Ile Lys Pro His
71 100 105 110
73 caa agc cag cac ata gga gag atg agc ttc ctg cag cat agc aga tgt 385
74 Gln Ser Gln His Ile Gly Glu Met Ser Phe Leu Gln His Ser Arg Cys
75 115 120 125
77 gaa tgc aga cca aag aaa gat aga aca aag cca gaa aat cac tgt gag 433
78 Glu Cys Arg Pro Lys Lys Asp Arg Thr Lys Pro Glu Asn His Cys Glu
79 130 135 140
81 cct tgt tca gag cgg aga aag cat ttg ttt gtc caa gat ccg cag acg 481
82 Pro Cys Ser Glu Arg Arg Lys His Leu Phe Val Gln Asp Pro Gln Thr
83 145 150 155
85 tgt aaa tgt tcc tgc aaa aac aca gac tcg cgt tgc aag gcg agg cag 529
86 Cys Lys Cys Ser Cys Lys Asn Thr Asp Ser Arg Cys Lys Ala Arg Gln
87 160 165 170 175
89 ctt gag tta aac gaa cgt act tgc aga tgt gac aag cca agg cgg tga 577
90 Leu Glu Leu Asn Glu Arg Thr Cys Arg Cys Asp Lys Pro Arg Arg *
91 180 185 190
94 <210> SEQ ID NO: 2
95 <211> LENGTH: 190
96 <212> TYPE: PRT
97 <213> ORGANISM: rat
99 <400> SEQUENCE: 2
100 Met Asn Phe Leu Leu Ser Trp Val His Trp Thr Leu Ala Leu Leu Leu
101 1 5 10 15
102 Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Thr Thr Glu Gly
103 20 25 30
104 Glu Gln Lys Ala His Glu Val Val Lys Phe Met Asp Val Tyr Gln Arg
105 35 40 45
106 Ser Tyr Cys Arg Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu Tyr
107 50 55 60
108 Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu Met
109 65 70 75 80
110 Arg Cys Ala Gly Cys Cys Asn Asp Glu Ala Leu Glu Cys Val Pro Thr
111 85 90 95
112 Ser Glu Ser Asn Val Thr Met Gln Ile Met Arg Ile Lys Pro His Gln
113 100 105 110
114 Ser Gln His Ile Gly Glu Met Ser Phe Leu Gln His Ser Arg Cys Glu
115 115 120 125
116 Cys Arg Pro Lys Lys Asp Arg Thr Lys Pro Glu Asn His Cys Glu Pro
117 130 135 140
118 Cys Ser Glu Arg Arg Lys His Leu Phe Val Gln Asp Pro Gln Thr Cys
119 145 150 155 160
120 Lys Cys Ser Cys Lys Asn Thr Asp Ser Arg Cys Lys Ala Arg Gln Leu
121 165 170 175
122 Glu Leu Asn Glu Arg Thr Cys Arg Cys Asp Lys Pro Arg Arg

```

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Input Set : A:\18199cb.txt

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123          180          185          190
125 <210> SEQ ID NO: 3
126 <211> LENGTH: 477
127 <212> TYPE: DNA
128 <213> ORGANISM: rat
130 <220> FEATURE:
131 <221> NAME/KEY: CDS
132 <222> LOCATION: (1)...(477)
134 <400> SEQUENCE: 3
135 atg ctg gcc atg aag ctg ttc act tgc ttc ttg cag gtc cta gct ggg      48
136 Met Leu Ala Met Lys Leu Phe Thr Cys Phe Leu Gln Val Leu Ala Gly
137 1          5          10          15
139 ttg gct gtg cac tcc cag ggg gcc ctg tct gct ggg aac aac tca aca      96
140 Leu Ala Val His Ser Gln Gly Ala Leu Ser Ala Gly Asn Asn Ser Thr
141          20          25          30
143 gaa atg gaa gtg gtg cct ttc aat gaa gtg tgg ggc cgc agc tac tgc      144
144 Glu Met Glu Val Val Pro Phe Asn Glu Val Trp Gly Arg Ser Tyr Cys
145          35          40          45
147 cgg cca atg gag aag ctg gtg tac att gca gat gaa cac cct aat gaa      192
148 Arg Pro Met Glu Lys Leu Val Tyr Ile Ala Asp Glu His Pro Asn Glu
149 50          55          60
151 gtg tct cat ata ttc agt ccg tca tgt gtc ctt ctg agt cgc tgt agt      240
152 Val Ser His Ile Phe Ser Pro Ser Cys Val Leu Leu Ser Arg Cys Ser
153 65          70          75          80
155 ggc tgc tgt ggt gac gag ggt ctg cac tgt gtg gcg cta aag aca gcc      288
156 Gly Cys Cys Gly Asp Glu Gly Leu His Cys Val Ala Leu Lys Thr Ala
157          85          90          95
159 aac atc act atg cag atc tta aag att ccc ccc aat cgg gat cca cat      336
160 Asn Ile Thr Met Gln Ile Leu Lys Ile Pro Pro Asn Arg Asp Pro His
161          100          105          110
163 tcc tac gtg gag atg aca ttc tct cag gat gta ctc tgc gaa tgc agg      384
164 Ser Tyr Val Glu Met Thr Phe Ser Gln Asp Val Leu Cys Glu Cys Arg
165          115          120          125
167 cct att ctg gag acg aca aag gca gaa agg agg aaa acc aag ggg aag      432
168 Pro Ile Leu Glu Thr Thr Lys Ala Glu Arg Arg Lys Thr Lys Gly Lys
169          130          135          140
171 agg aag caa agc aaa acc cca cag act gag gaa ccc cac ctg tga      477
172 Arg Lys Gln Ser Lys Thr Pro Gln Thr Glu Glu Pro His Leu *
173 145          150          155
176 <210> SEQ ID NO: 4
177 <211> LENGTH: 158
178 <212> TYPE: PRT
179 <213> ORGANISM: rat
181 <400> SEQUENCE: 4
182 Met Leu Ala Met Lys Leu Phe Thr Cys Phe Leu Gln Val Leu Ala Gly
183 1          5          10          15
184 Leu Ala Val His Ser Gln Gly Ala Leu Ser Ala Gly Asn Asn Ser Thr
185          20          25          30
186 Glu Met Glu Val Val Pro Phe Asn Glu Val Trp Gly Arg Ser Tyr Cys

```

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Input Set : A:\18199cb.txt

Output Set: N:\CRF4\11132002\J071370A.raw

```

187          35          40          45
188 Arg Pro Met Glu Lys Leu Val Tyr Ile Ala Asp Glu His Pro Asn Glu
189          50          55          60
190 Val Ser His Ile Phe Ser Pro Ser Cys Val Leu Leu Ser Arg Cys Ser
191 65          70          75          80
192 Gly Cys Cys Gly Asp Glu Gly Leu His Cys Val Ala Leu Lys Thr Ala
193          85          90          95
194 Asn Ile Thr Met Gln Ile Leu Lys Ile Pro Pro Asn Arg Asp Pro His
195          100         105         110
196 Ser Tyr Val Glu Met Thr Phe Ser Gln Asp Val Leu Cys Glu Cys Arg
197          115         120         125
198 Pro Ile Leu Glu Thr Thr Lys Ala Glu Arg Arg Lys Thr Lys Gly Lys
199          130         135         140
200 Arg Lys Gln Ser Lys Thr Pro Gln Thr Glu Glu Pro His Leu
201 145          150          155
203 <210> SEQ ID NO: 5
204 <211> LENGTH: 417
205 <212> TYPE: DNA
206 <213> ORGANISM: rat
208 <220> FEATURE:
209 <221> NAME/KEY: CDS
210 <222> LOCATION: (1)...(417)
212 <400> SEQUENCE: 5
213 atg ctg gcc atg aag ctg ttc act tgc ttc ttg cag gtc cta gct ggg      48
214 Met Leu Ala Met Lys Leu Phe Thr Cys Phe Leu Gln Val Leu Ala Gly
215 1          5          10          15
217 ttg gct gtg cac tcc cag ggg gcc ctg tct gct ggg aac aac tca aca      96
218 Leu Ala Val His Ser Gln Gly Ala Leu Ser Ala Gly Asn Asn Ser Thr
219          20          25          30
221 gaa atg gaa gtg gtg cct ttc aat gaa gtg tgg ggc cgc agc tac tgc      144
222 Glu Met Glu Val Val Pro Phe Asn Glu Val Trp Gly Arg Ser Tyr Cys
223          35          40          45
225 cgg cca atg gag aag ctg gtg tac att gca gat gaa cac cct aat gaa      192
226 Arg Pro Met Glu Lys Leu Val Tyr Ile Ala Asp Glu His Pro Asn Glu
227          50          55          60
229 gtg tct cat ata ttc agt ccg tca tgt gtc ctt ctg agt cgc tgt agt      240
230 Val Ser His Ile Phe Ser Pro Ser Cys Val Leu Leu Ser Arg Cys Ser
231 65          70          75          80
233 ggc tgc tgt ggt gac gag ggt ctg cac tgt gtg gcg cta aag aca gcc      288
234 Gly Cys Cys Gly Asp Glu Gly Leu His Cys Val Ala Leu Lys Thr Ala
235          85          90          95
237 aac atc act atg cag atc tta aag att ccc ccc aat cgg gat cca cat      336
238 Asn Ile Thr Met Gln Ile Leu Lys Ile Pro Pro Asn Arg Asp Pro His
239          100         105         110
241 tcc tac gtg gag atg aca ttc tct cag gat gta ctc tgc gaa tgc agg      384
242 Ser Tyr Val Glu Met Thr Phe Ser Gln Asp Val Leu Cys Glu Cys Arg
243          115         120         125
245 cct att ctg gag acg aca aag gca gaa agg taa      417
246 Pro Ile Leu Glu Thr Thr Lys Ala Glu Arg *
```

RAW SEQUENCE LISTING

DATE: 11/13/2002

PATENT APPLICATION: US/10/071,370A

TIME: 14:08:19

Input Set : A:\18199cb.txt

Output Set: N:\CRF4\11132002\J071370A.raw

```

247      130      135
250 <210> SEQ ID NO: 6
251 <211> LENGTH: 138
252 <212> TYPE: PRT
253 <213> ORGANISM: rat
255 <400> SEQUENCE: 6
256 Met Leu Ala Met Lys Leu Phe Thr Cys Phe Leu Gln Val Leu Ala Gly
257 1      5      10      15
258 Leu Ala Val His Ser Gln Gly Ala Leu Ser Ala Gly Asn Asn Ser Thr
259      20      25      30
260 Glu Met Glu Val Val Pro Phe Asn Glu Val Trp Gly Arg Ser Tyr Cys
261      35      40      45
262 Arg Pro Met Glu Lys Leu Val Tyr Ile Ala Asp Glu His Pro Asn Glu
263      50      55      60
264 Val Ser His Ile Phe Ser Pro Ser Cys Val Leu Leu Ser Arg Cys Ser
265 65      70      75      80
266 Gly Cys Cys Gly Asp Glu Gly Leu His Cys Val Ala Leu Lys Thr Ala
267      85      90      95
268 Asn Ile Thr Met Gln Ile Leu Lys Ile Pro Pro Asn Arg Asp Pro His
269      100     105     110
270 Ser Tyr Val Glu Met Thr Phe Ser Gln Asp Val Leu Cys Glu Cys Arg
271      115     120     125
272 Pro Ile Leu Glu Thr Thr Lys Ala Glu Arg
273      130     135
275 <210> SEQ ID NO: 7
276 <211> LENGTH: 14
277 <212> TYPE: PRT
278 <213> ORGANISM: rat
280 <400> SEQUENCE: 7
281 Ala Pro Thr Thr Glu Gly Glu Gln Lys Ala His Glu Val Val
282 1      5      10
284 <210> SEQ ID NO: 8
285 <211> LENGTH: 19
286 <212> TYPE: PRT
287 <213> ORGANISM: rat
289 <220> FEATURE:
290 <221> NAME/KEY: MOD_RES
291 <222> LOCATION: (7)...(7)
292 <223> OTHER INFORMATION: Xaa = Unknown
294 <400> SEQUENCE: 8
W--> 295 Ala Leu Ser Ala Gly Asn Xaa Ser Thr Glu Met Glu Val Val Pro Phe
296 1      5      10      15
297 Asn Glu Val
300 <210> SEQ ID NO: 9
301 <211> LENGTH: 25
302 <212> TYPE: DNA
303 <213> ORGANISM: Artificial Sequence
305 <220> FEATURE:
306 <223> OTHER INFORMATION: oligonucleotide

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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 11/13/2002
PATENT APPLICATION: US/10/071,370A TIME: 14:08:20

Input Set : A:\18199cb.txt
Output Set: N:\CRF4\11132002\J071370A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:8; Xaa Pos. 7
Seq#:9; N Pos. 20
Seq#:10; N Pos. 21
Seq#:22; N Pos. 19
Seq#:23; N Pos. 24
Seq#:28; N Pos. 10,11
Seq#:29; N Pos. 10,11

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/071,370A

DATE: 11/13/2002

TIME: 14:08:20

Input Set : A:\18199cb.txt

Output Set: N:\CRF4\11132002\J071370A.raw

L:295 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
 L:308 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
 L:313 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:9
 L:314 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
 L:324 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
 L:330 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:10
 L:331 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
 L:463 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
 L:470 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:22
 L:471 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
 L:481 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
 L:486 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:23
 L:487 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0
 L:541 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
 L:545 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:28
 L:546 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0
 L:556 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
 L:560 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:29
 L:561 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0